REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. Amendment of the claims

In the amendment of the claims, independent claims 18, 27, 33, 39 and 46 are amended to recite that the chip is applied to a finalized, external surface of the smart card or card body. Support for this amendment is provided in the application as it is made abundantly clear in the embodiments shown in Figs. 4b and 7-9. Support is also found in the written description in sections referring to the embodiments of Figs. 7-9 (page 8, fourth full paragraph).

Entry of the amendment of the claims is respectfully requested in the next Office communication.

2. Rejection of claims 18-21, 27-31, 33-36, 38-43 and 45-48 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,412,701 (Kohama et al.)

Independent claims 18, 27, 33, 39 and 46 are currently rejected in view of the Kohama et al. patent. This rejection is respectfully traversed on the basis that the Kohama et al. patent fails to disclose or suggest a method or smart card wherein a thinned chip is applied to a finalized surface of an external side of a smart card. Therefore, these claims are patentable over the Kohama et al. patent.

Dependent claims 19-21, 28-31, 34-36, 45, 47 and 48 are patentable based on their dependency from one of claims 18, 27, 33, 39 and 46, and their individually recited features.

Turning specifically to the Kohama et al. patent, it is apparent that nowhere in the teachings of this patent is there any disclosure or suggestion of

providing a method or a smart card wherein a thinned chip is applied to a finalized, external surface of a smart card. At best, the Kohama et al. patent describes a method, in connection with the embodiment of Figs. 8 and 9, including the steps of mounting a chip on a side of a flexible substrate and then compressing the substrate in its thickness direction so as to embed the chip in dents formed in the flexible substrate (col. 5, lines 1-6). The other methods for forming embodiments of the Kohama et al. patent include compressing chips between two flexible substrates (in reference to method 1, col. 4, lines 56-67; method 3, col. 4, lines 13-33; and method 4, col. 4, lines 34-51).

Unlike in the amended independent claims of the pending application, the surface of the substrate upon which the chip is applied in the Kohama et al. patent is not finalized. Instead, the Kohama et al. patent requires at least one additional process step which is performed after the chip is applied to the smart card, and the additional step is considered to materially the smart card in order to place it in a finalized condition.

While the Kohama et al. patent shows an embodiment in Figs. 8 and 9 of the chip 1 being embedded into the smart card 3, such an embodiment is not considered representing a smart card wherein a thinned chip is applied to a finalized external surface of the smart card. Since the chip is embedded into the smart card, the external surface of the smart card through which the chip is embedded is materially altered through compression to allow for the embedment of the chip (col. 12, lines 4-17). Therefore, the external surface of the card is not in a finalized state, as required in the pending independent claims.

The Kohama et al. patent specifically identifies that the invention thereof provides a solution to problems in the prior art by providing a flexible substrate having compressibility in the thickness direction, self-pressure bonding property

and resin impregnation property and parts mounted and carried on the flexible substrate (col. 2, lines 57-65). Therefore, the solution according to the Kohama et al. patent requires that the flexible substrates receive some sort of subsequent processing in order to render them into a finalized state after the application of a chip.

The solution of the Kohama et al. patent is in contradistinction to the independent claims of the pending application wherein there is no need for the solution of the Kohama et al. patent since the external surface smart card according to these claims is already in a finalized state. Moreover, the Kohama et al. patent makes no reference to providing a finalized card; the methods of the Kohama et al. patent only relate to the non-finalized flexible substrate of the type described above.

It is therefore respectfully submitted that the Kohama et al. patent does not disclose or suggest a method or smart card wherein a thinned chip is applied to an external surface of a finalized smart card. Accordingly, withdrawal of the present rejection is kindly requested.

3. Rejection of claims 18-22 and 27-48 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,412,701 (Kohama et al.) in view of U.S. Patent 4,835,427 (Bohm)

Independent claims 18, 27, 33, 39 and 46 are rejected in view of the proposed combination of the Kohama et al. and Bohm patents on the basis that the rejected claims are obvious in view of the proposed combination. This rejection is respectfully traversed on the basis that the Bohm patent fails to make up for the aforementioned shortcomings of the Kohama et al. patent. Specifically, the Bohm patent fails to describe or suggest a smart card and method for making the smart

card wherein a thinned chip is applied to an external surface of a finalized smart card.

Claims 18, 27, 33, 39 and 46 are therefore patentable.

Dependent claims 19-21, 28-32, 34-38, 40-45, 47 and 48 are patentable based on their dependency from one of claims 18, 27, 33, 39 and 46, and their individually recited features.

According to the rejection in the Office action, the Bohm patent is provided for teaching that it is well known to provide chips with a lacquer coating to protect the chip and its connections. While this is true in view of the teachings in the Bohm patent, it is submitted that the teachings of the Bohm patent would not motivate a skilled artisan to provide a thinned chip on a finalized external surface of a smart card.

In view of these observations, it is clear that the proposed combination of the Kohama et al. and Bohm patents fails to disclose or suggest each and every limitation require by the independent claims. Moreover, the Kohama et al. patent specifically describes flexible substrates that require some sort of subsequent finishing treatment after the application of a chip and, in view of this fundamental feature in the teachings of the Kohama et al. patent, one skilled in the art would only be motivated to compress the smart card supporting the chip after it is applied thereon. The skilled artisan would not, however, be motivated to stop treating the smart card after application of the chip since subsequent treatment of the smart card and chip (the chip being embedded in the card) is at the very core of the invention of the Kohama et al. patent.

As a result, it is submitted that the proposed combination of the Kohama et al. and Bohm patents does not amount to a *prima facie* case of obviousness.

Accordingly, the present rejection is improper in view of the amended independent claims, and withdrawal of this rejection is kindly requested.

4. Rejection of claims 18, 20, 27 and 30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 6,193,163 (Fehrman et al.) in view of U.S. patent 6,412,701 (Kohama et al.)

Independent claims 18 and 27 are rejected as being obvious in view of the proposed combination of the Fehrman et al. and Kohama et al. patents. This rejection is respectfully traversed on the basis that the proposed combination does not disclose or suggest a smart card and method for making the smart card wherein a thinned chip is applied to an external surface of a finalized smart card. More specifically, the Fehrman et al. patent does not make up for the aforementioned shortcomings of the Kohama et al. patent.

Claims 18 and 27 are therefore patentable.

Claims 20 and 30 are patentable based on their dependency from one of claims 18 or 27, and their individually recited features.

Turning to the Fehrman et al. patent, contrary to the assertions in the action, the Fehrman et al. patent does not disclose applying a chip to an external surface of a smart card. Instead, the Fehrman et al. patent describes applying the chip 14 within the cut-out portion 20 of the smart card 10. The cut-out portion 20 includes internal locking areas 24, 26 that are formed under the top face 12A corresponding to an external surface, of the smart card 10 (Figs. 1 and 2; col. 7, line 64 through col. 8, line 51).

It is very clear from Figs. 1 and 2 of the Fehrman et al. patent that the chip is not applied to the top face or external surface of the smart card. Instead, the chip is provided into a recess placed below the top face of the smart card. As such,

the Fehrman et al. patent cannot be construed to teach that a chip is applied to an external surface of a finalized smart card.

The Kohama et al. patent does not make up for the glaring deficiencies of the Fehrman et al. patent due to its own aforementioned shortcomings. Moreover, there is no suggestion in either of these patents that would motivate one skilled in the art to combine the teachings of these patents to make the smart card and execute the method according to claims 18 and 27.

The rationale for making this proposed combination is based on unstable grounds in that the teachings in Fehrman et al. patent are incompatible with those in the Kohama et al. patent. While the Fehrman et al. patent indicates that it meets a need in the art by providing a removable chip (col. 2, lines 13-29), the Kohama et al. patent meets a need by providing a flexible card having permanently embedded chips. The action correctly indicates that the Fehrman et al. patent does not teach the use of thinned chips, but fails to recognize that the Fehrman et al. patent likely does not teach the use of thinned because the chip must be suitably resilient for being inserted into or removed from the internal locking areas of the smart card. The Kohama et al. patent, on the other hand, uses thinned chips so that these can be sufficiently and permanently embedded into the flexible substrates in accordance with methods proposed therein.

Accordingly, while the Fehrman et al. patent describes a smart card having a removable chip, the Kohama et al. patent teaches using thin chips that are suitable for being permanently embedded into flexible substrates that are subsequently formed into a smart card. It is thereby asserted that the teachings of the Fehrman et al. and Kohama et al. patents conflict, and a skilled artisan would not reasonably be able to make the smart card or execute the prescribed method required by the claims of the pending application.

In view of these observations, the proposed combination of the Fehrman et al. and Kohama et al. patents does not constitute a case of *prima facie* obviousness that renders independent claims 18 and 27 obvious. This is due to the fact that the combined teachings of the Fehrman et al. and Kohama et al. patents do not teach each and every feature required by claims 18 and 27. In addition, there is no reasonable likelihood of success that a skilled artisan would be able to make the smart card and execute the prescribed method required by the claims of the pending application.

Accordingly, withdrawal of this rejection is respectfully requested.

5. Rejection of claims 22 and 32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 6,193,163 (Fehrman et al.) in view of U.S. patent 6,412,701 (Kohama et al.) and further in view of U.S. patent 4,835,427 (Bohm)

This rejection is traversed on the basis that the proposed combination of the Fehrman et al., Kohama et al. and Bohm patents fails to disclose or suggest each and every feature according to claim 18 and 27. The shortcomings of the Fehrman et al., Kohama et al. and Bohm patents are provided in substantial detail in the foregoing discussion.

Claims 22 and 32 depend from claims 18 and 27, respectively. These claims are patentable based on their dependency from one of claims 18 and 27, and their individually recited features.

Accordingly, withdrawal of this rejection is respectfully requested.

6. Rejection of claims 18, 20, 21, 27, 30, 31, 33, 35, 36, 38, 39, 42, 43 and 45 under 35 U.S.C. § 103(a) as being unpatentable over FR patent 2,780,534 (Provost) in view of U.S. patent 6,412,701 (Kohama et al.)

Independent claims 18, 27, 33 and 39 are rejected as being obvious over the proposed combination of the Provost patent in view of Kohama et al. patent. This rejection is respectfully traversed on the basis that the proposed combination does not disclose or suggest a smart card and method for making the smart card wherein a thinned chip is applied to a finalized external surface of a smart card. More specifically, the Provost patent does not make up for the aforementioned shortcomings of the Kohama et al. patent.

Claims 18, 27, 33 and 39 are therefore patentable.

Claims 20, 21, 30, 31, 35, 36, 38, 42 and 43 are patentable based on their dependency from one of claims 18 or 27, and their individually recited features.

Turning specifically to the Provost patent, it is readily apparent that this patent fails to disclose each and every feature of the independent claims of the pending application. Namely, the Provost patent describes a card that includes a base (12) of thermoplastic material with a semiconductor chip (20) that is inserted into the base by hot pressing so that the chip is flush with the surface of the card (English abstract). The base is then covered with a film (32) of a thermoplastic material.

Because the Provost patent describes forming an external surface of the smart card with the thermoplastic film that covers the thermoplastic base, it cannot be construed to teach applying a thinned chip on a finalized, external surface of a smart card. The surface of the base in the Provost patent is merely an intermediate surface upon which the chip is placed, and only after the

thermoplastic film is applied can the smart card of the Provost patent be considered finalized.

It is thus asserted that the thermoplastic film forms a definitive layer of the smart card of the Provost patent in that the smart card is composed of both the thermoplastic base and the thermoplastic film.

The shortcomings of the Kohama et al. patent are provided in the foregoing discussion. In view of the shortcomings in the teaching of both the Provost patent and the Kohama et al. patent, it is abundantly clear that the proposed combination fails to teach each and every feature required in the independent claims.

The deficiencies of the Provost patent are similar in nature to those of the Kohama et al. patent in that in both patents the chip is embedded into a substrate after which the smart card is further treated or constructed to obtain a finalized condition. As such, one skilled in the art would not be motivated by the proposed combination to make the smart card and perform the method of the pending claims since it is required that the chip be applied to an external surface of a finalized smart card. Because the independent claims require a smart card that is finalized, the claims preclude subsequent steps which materially alter the smart card or lead to additional constructive steps.

In view of these observations, the proposed combination of the Provost and Kohama et al. patents does not constitute a case of *prima facie* obviousness that renders independent claims 18, 27, 33 and 39 obvious. This is due to the fact that the combined teachings of the Provost and Kohama et al. patents do not teach each and every feature required by claims 18, 27, 33 and 39. As a result, there is no reasonable likelihood of success that a skilled artisan would be able to make

the smart card and execute the prescribed method required by the claims of the pending application.

Accordingly, withdrawal of this rejection is respectfully requested.

7. Rejection of claims 22, 32, 37 and 44 under 35 U.S.C. § 103(a) as being unpatentable over FR patent 2,780,534 (Provost) in view of U.S. patent 6,412,701 (Kohama et al.) and further in view of U.S. patent 4,835,427 (Bohm)

This rejection is traversed on the basis that the proposed combination of the Provost, Kohama et al. and Bohm patents fails to disclose or suggest each and every feature according to claim 18 and 27. The shortcomings of the Provost, Kohama et al. and Bohm patents are provided in substantial detail in the foregoing discussion.

Claims 22, 32, 37 and 44 depend from claims 18, 27, 33 and 39, respectively. These claims are patentable based on their dependency from one of claims 18, 27, 33 and 39, and their individually recited features.

Accordingly, withdrawal of this rejection is respectfully requested.

8. Conclusion

In view of the amendments of the claims and the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that claims 18-22 and 27-48 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,

Date: June 29, 2005

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